# PLANT INTRODUCTION:

## AVAILABLE DESIDERATA - ASIATIC THEACEOUS GORDONIEAE

Genera - Camellia
- Gordonia
- Hartia
- Laplacea
- Pyrenaria
- Schima
- Tutcheria



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January, 1964

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# GENERAL INTRODUCTION

The Camellia Research Advisory Committee and Los Angeles State and County Arboretum are jointly engaged in an extensive research program on Camellia and its allied genera. This project has a two-fold purpose: (1) to better understand the taxogenetics of Camellia and related Gordonieae; and (2) to provide horticultural improvement within the group through plant breeding.

Approximately thirty of more than eighty species in the genus Camellia are presently available under cultivation in the United States and other Western areas. Of the fifty or so remaining species, many are critically important to explicit research objectives; and in addition, other collections from the wild of species already in cultivation are highly desirable. In any such project, it becomes quite necessary to secure all species of interest that remain potentially available in foreign areas.

The problem of introducing these species of interest is compounded, since many of them are indigenous to regions in which any reliable contact is extremely difficult to establish. This situation is typified by the relative inaccessibility of areas such as the Northeast Frontier of Assam, Upper Burma, northern Thailand, Laos, Cambodia and much of South Viet Nam. Beyond this, several highly critical species are recorded only from southwestern China and North Viet Nam, regions totally inaccessible by direct means. With few exceptions, species desiderata from these latter regions are not treated in the following pages; nor are those many remaining species treated that occur deep within the Chinese mainland and Hainan. It becomes difficult to accept, however, that reportedly yellow-flowered species such as Camellia flava and C. euphlebia and the purple-flowered C. amplexicaulis will continue to remain unavailable in Tonkin; surely, with their extreme horticultural importance there must be some way in which these can be secured indirectly. Some species known to occur

in extreme southwestern Yunnan have been treated in following pages; it is probable that some of these are indigenous, as well, to near-contiguous areas of Burma, Thailand and Laos and might become available through direct or indirect contact in those regions or from Yunnan itself. Finally, there is a group of Camellia species,* not treated in following pages, and related generic representatives indigenous to southern Kwangtung; perhaps indirect arrangements can be made for securing some of these desiderata through contacts in Hong Kong or Macao.

It is evident through fitful and frustrating efforts to introduce these species desiderata in earlier years that significant success will only be achieved with systematic, concerted action maintained over an extended period of time. The full cooperation and assistance of everyone in a position to augment this introduction program is earnestly solicited. Whatever materials may be introduced - and hopefully this may include at least some of the critical species - their availability to the research project underway at the Los Angeles State and County Arboretum will directly contribute to an advanced botanic understanding of the taxon and horticultural improvement beneficial to all camellians.

*Camellia species indigenous to Kwangtung include: C. assimiloides; C. caudata; C. cordifolia; C. edithae!, Tai-mo-shan and Tung-koo-shan of Tapu District; C. euryoides; C. fluviatilis; C. furfuracea; C. granthamiana, probably; C. latipetiolata; C. melliana; C. nitidissima, possibly Tutcheria; C. parvilimba; C. semiserrata!, Kwong-ning Hsien - Sui-sing Ling, Lo-ting Hsien, Mow-ming Hsien, Tsing-yuen Hsien - Pah-kong, Wun-fou Hsien, Yeung-chun Hsien; C. sinensis f. macrophylla; C. sinensis f. parvifolia.

# INSTRUCTIONS FOR SEED SHIPMENT

The only generally satisfactory means of plant introduction from abroad are through shipment of seed or cuttings. Success with small, rooted plants is possible only through special growing, packing and shipment techniques and detailed beforehand arrangements; even then, successful introduction is infrequent.

Short pieces of current-year growth providing four- to eight-inch cuttings may be shipped with reasonable expectations of survival, if properly packed and airmailed directly to destination. The best method of packaging cuttings for shipment is as follows: Unless leaves are quite small, reduce leaf surface by removing the terminal half of each leaf; the basal stem of each cutting should them be wrapped with slightly-dampened paper, cotton or other mildly absorbent material; depending upon size and leafiness, from one to four of these cuttings can then be placed in a polyethylene-plastic bag, which has been first dampened inside but contains no or very little free water; the plastic bag must then be flattened reasonably and the air exhausted, and then the open-end of the bag is folded over and sealed with tape; this semi-flattened, sealed package is then placed between two thin sheets of stiff paper or very light cardboard and fastened within to assist in flattening the package; this is then placed in a full-size (c. 9½" long) correspondence envelope addressed to Dr. C. R. Parks, P. O. Box 688, Arcadia, California, and airmailed; it is best to place the return address and identification of contents only within the envelope.

When introducing species materials - in contradistinction from horticultural cultivars - and seed are or will become available, it is always best to use seed for this purpose. Seed of some of the gordonieceous genera do not remain viable for extended periods following harvest; this is particularly true of Camellia seed.

Unless seed are stored at 40°F., viability decreases rapidly and germination falls off significantly within a period of two to four weeks. Proper packaging prevents this loss of viability during shipment time. It is best to secure fresh seed, or even germinating seed; these are placed in a polyethylene-plastic bag, which has been dampened inside or contains a small wad of slightly-moistened absorbent material; the bag is then exhausted of air, sealed and mailed as noted above for cuttings.

The above precautions for successful seed introduction are particularly pointed to Camellia, and probably Pyrenaria. Seed of Gordonia, Hartia, Laplacea, Schima and Tutcheria are less subject to loss of viability and successfully germinate without special storage after several-week periods. Germination, however, even in these genera is improved when seed are fresh and shipped in polyethylene-plastic bags to prevent excessive moisture loss.

ASSAM

Camellia: refer to following pages detailing each species.

C. caudata - page 4
C. kissi (C. drupifera) - page 13 (Khasia and Naga hills)
C. kissi var. stenophylla - page 13
C. lutescens - page 18
C. oleifera var. confusa - page 24

Gordonia excelsa - Khasia Hills

Pyrenaria barringtoniaefolia - large shrub, flowers yellowish-white, relatively large; fairly common along evergreen-forest outskirts in all districts of Upper Assam.

Pyrenaria diospyricarpa - small tree, flowers white; not common, Nambor and Doyang reserves, and Sibsagar.

Schima khasiana (S. wallichii var. khasiana) - Khasia and Naga hills, and Manipur; 4000-6500' elevation.

Schima wallichii - fairly common in the drier and deciduous forests of all districts in Upper Assam.

BHUTAN

Camellia: refer to following pages detailing each species.

C. caudata - page 4
C. kissi (C. drupifera) - page 13

Gordonia excelsa

Pyrenaria - probably some species of this genus occur in Bhutan.

Schima khasiana (S. wallichii var. khasiana)

Schima wallichii

BURMA

Camellia: refer to following pages detailing each species.

C. caudata - page 4
C. kissi - page 13 (Mt. Victoria and Esakan)
C. kissi var. stenophylla - page 13
C. lutescens - page 18
C. oleifera var. confusa - page 24
C. tsaii - page 32
C. wardii - page 34

Gordonia - probably some species of this genus occur in Burma.

Pyrenaria attenuata - Tavoy

Pyrenaria camelliaeflora - Pegu and Martaban

Pyrenaria diospyricarpa

Schima crenata (S. wallichii var. crenata) - Tenasserim

Schima khasiana (S. wallichii var. khasiana) - Upper Burma

Schima monticola (S. wallichii var. monticola) - Nattoung Hills of Martaban; this is one of two available large-flowered species, and it is important to secure S. monticola for this reason.

Schima oblata (S. antherisosa; S. wallichii var. oblata) - Pegu, Rangoon and Moulmein and Mergui; Tenasserim, Martaban to Penang.

Schima wallichii (S. mollis) - Upper Burma

Anneslea fragrans - this is a promising theaceous ornamental from the Moulmein and Martaban areas of Burma; it should be worthy of introduction, although this genus does not fall within the particular group of theaceous genera being studied.

CAMBODIA

Camellia: refer to following pages detailing each species.

C. dormoyana - page 7
C. kissi - page 13
Also - probably several other species!

Gordonia - probably some species of this genus occur in Cambodia.

Schima noronhae (S. wallichii var. noronhae) - Gamronytong Province, at Camchay and Phudenmong.

CEYLON

Camellia: refer to following page detailing the single species.

C. lutescens - page 18 (In cultivation at the Tea Research Institute, St. Coombs, Talawakelle; it would also be worthwhile to check the collections of the Hakgala Botanic Gardens at Hakgala for plants of C. lutescens and C. rosaeflora.)

Gordonia elliptica - forests of Central Province and Nuwara Eliya.

Gordonia speciosa - uncommon in damp forests of Central Province along southwesterly aspects of ridge tops at 4000-5000' elevation and higher, Bogawantalawa and Galleboda; red-flowered, handsome ornamental tree now becoming rare from forest clearing for tea and coffee plantations; probably in cultivation at the Ceylonese botanic gardens, Gampaha, Hakgala, Peradeniya.

Gordonia zeylanica - southwesterly aspects of hill tops in the wet districts at 3000-4000' elevation.

CHINA

Camellia: refer to following page detailing the Chinese species.

C. forrestii - page 1
C. henryana - page 1
C. mairei - page 1
C. oleifera var. confusa - (extreme southwestern Yunnan)
C. pachyandra - page 1
C. yunnanensis - page 1

Gordonia axillaris - southwestern China

Gordonia chrysandra - Yunnan

Gordonia sinensis - western Szechwan

Gordonia yunnanensis - Yunnan

Hartia - several species from Yunnan

Pyrenaria camellioides - Yunnan

Pyrenaria cheliensis - Yunnan

Pyrenaria yunnanensis - Yunnan

Schima forrestii (S. monticola; S. wallichii var. monticola) - large-flowered; Yunnan, east of Tengchung (Tengyueh).

Schima noronhae (S. superba; S. wallichii var. noronhae; also S. argentea; S. bambusifolia; S. confertiflora; S. mairei; and S. sinensis) - Yunnan

Schima villosa (S. wallichii) - Yunnan

Tutcheria greeniae - Kwangtung

Tutcheria microcarpa - Kwangtung (Nakai lists this from Hong Kong too)

Tutcheria spectabilis - Kwangtung and Hong Kong

Tutcheria symplocifolia - Kwangtung

FORMOSA - see TAIWAN

INDIA - see ASSAM, BHUTAN, CEYLON, NEPAL, and SIKKIM

Camellia: refer to following page detailing the single species.

C. lutescens - page 18 (Seed of this species has been secured from the Nonesuch Tea Garden, near Coonoor in south India; this garden includes an acre planting of tea and other material of age arranged systematically; it would be interesting to determine if other species of value are represented.)

Gordonia obtusa - mountains of the Western Peninsula from Concan to the Pulney Hills.

INDO-CHINA - see CAMBODIA, LAOS, SOUTH VIET NAM

INDONESIA

Camellia: refer to following page detailing the single species.

C. lanceolata - page 15

Gordonia acuminata - Java
Gordonia brevifolia - Borneo
Gordonia densifolia - Sumatra
Gordonia dipterosperma - East Indies
Gordonia excelsa - Java, Amboina
Gordonia grandiflora - Borneo
Gordonia havilandii - Borneo
Gordonia lanceifolia - Borneo
Gordonia marginata - Borneo (also known as Laplacea marginata)
Gordonia obtusa - East Indies
Gordonia ovalis - Sumatra (also known as Laplacea ovalis)
Gordonia rumphii - Moluccas, especially Amboina

Laplacea buxifolia - Sumatra
Laplacea marginata, ovalis - see under Gordonia
Laplacea sarasinii - Celebes
Laplacea serrata - Java
Laplacea subintegerrima - Sumatra
Laplacea volcanica - Sumatra

Pyrenaria barringtoniaefolia - East Indies
Pyrenaria lanceolata - Java (Camellia lanceolata?)
Pyrenaria lasiocarpa - Java
Pyrenaria masocarpa - Borneo
Pyrenaria oidocarpa - Java
Pyrenaria parviflora - Borneo
Pyrenaria serrata - Java
Pyrenaria villosula - Sumatra

Schima bancana (S. wallichii var. bancana) - Sumatra
Schima crenata (S. wallichii var. crenata) - Borneo
Schima noronhae (S. beccarii; S. rigida; S. sericea; S. wallichii var. noronhae) - Borneo and Java
Schima oblata (S. antherisosa; S. subcinervia; S. wallichii var. oblata) - Sumatra

JAPAN

Camellia: refer to following pages detailing each species.

C. haematodes - page 2
C. hiemalis - page 12
C. sasanqua - page 27
C. species "China" - page 2
C. vernalis - page 33
C. wabisuke - page 2

Schima boninensis (S. mertensiana; S. noronhae; S. noronnae var. boninensis; S. wallichii var. mertensiana) - this is a large-flowered species that should be secured; it is endemic to Tsitsi-shima in the Bonin Islands, distantly southeast of Japan; the local native name is Hime-tsubaki.

LAOS

Camellia: refer to following pages detailing each species.

C. dormoyana - page 7
C. furfuracea - page 9
C. kissi - page 13
C. laotica - page 16
C. oleifera - page 23
C. oleifera var. confusa - page 24
C. cxyanthera - page 25
C. species - page 28

Gordonia gigantiflora

Hartia laotica

Pyrenaria laotica

Schima noronhae (S. wallichii var. noronhae) - Ubon near Kemmerath; Dang-rek, basin of the Se-moun.

Probably many other unreported species within the genera of interest occur in Laos.

MALAYA

Camellia: refer to following page detailing the single species.
C. lanceolata - page 15 (North Borneo)

Gordonia brevifolia - Borneo
Gordonia concentricicatrix - yellowish flowers; Malacca, Pahang, Selangor, Perak.
Gordonia excelsa - pink flowers, fragrant; Malacca, Singapore.
Gordonia grandiflora - Borneo
Gordonia grandis (G. singaporeana) - Singapore, Johore, Malacca, Perak, Penang.
Gordonia havilandii - Borneo
Gordonia hirtella - small, cream flowers; Selangor (c. 3000'), Perak.
Gordonia imbricata - low shrub; Pahang and Perak (from 4000' up).
Gordonia lanceifolia - Borneo
Gordonia maingayi - Malacca and Perak (c. 1000')
Gordonia marginata (Laplacea marginata) - Borneo
Gordonia multinervis - Singapore, Malacca and Perak.
Gordonia penangensis - cream-white or yellow flowers; very rare near Singapore, but common in open forest on Penang Hill.
Gordonia scortechinii - Perak
Gordonia spectabilis - Penang
Gordonia taipingensis - yellowish flowers, relatively large; Taiping Hills of Perak.

Laplacea amboinensis (Gordonia amboinensis) ? - site ?
Laplacea aromatica - site ?

Pyrenaria acuminata - common throughout peninsula.
Pyrenaria kunstleri - Perak and Penang (to 4000')
Pyrenaria masocarpa - Borneo
Pyrenaria parviflora - Borneo
Pyrenaria wrayi - Perak

Schima brevifolia (S. wallichii var. brevifolia) - North Borneo
Schima crenata (S. wallichii var. crenata) - North Borneo
Schima noronhae (S. beccarii; S. sericea; S. wallichii var. noronhae) - Borneo
Schima noronhae var. rigida (S. monticola; S. wallichii var. monticola) - large-flowered mountain species at 5000-5500' in the Gunong Tahan area of Pahang; it is important to secure this material.
Schima oblata (S. noronhae; S. wallichii var. oblata) - common above 2000', particularly in Penang and Perak.

Anneslea crassipes - this is a promising theaceous ornamental from Malacca, Pahang and Perak in open mountain woods from 3000-7000'; it should be worthy of introduction, although only distantly related to the group under study.

NEPAL

Camellia: refer to following page detailing the single species.
C. kissi - page 13

Schima wallichii

Probably other theaceous species of interest occur in Nepal.

NEW GUINEA

Gordonia brassii

Gordonia papuana

Probably many other theaceous species of interest occur in this region.

PHILIPPINES

Camellia: refer to following page detailing the single species.

C. lanceolata - page 15 (Best horticultural forms of this species come from the Philippines.)

Gordonia acuminata - site ?

Gordonia benguetica - Luzon

Gordonia fragrans - Luzon

Gordonia luzonica - Luzon

Gordonia polisana - Luzon

Gordonia sablayana - site ?

Gordonia subclavata - Luzon

Gordonia vidalii - site ?

Gordonia welbornii - Negros

Pyrenaria mindanaensis - Mindanao

Schima pulgarensis (S. crenata var. pulgarensis; S. wallichii var. pulgarensis; S. wallichii ssp. crenata var. pulgarensis) - shrub growing at 3000-4000' on the ridges at Mt. Pulgar, Puerto Princesa, Palawan.

RYUKYU ISLANDS

Camellia: refer to following pages detailing each species.

C. lutchuensis - page 17
C. miyagii - page 19
C. sasanqua - page 27 (Perhaps only confused with C. miyagii, but it should occur in the Ryukyus.)

Schima liukiuensis (S. noronhae; S. superba; S. wallichii var. liukiuensis) - Amami, Okinawa and Yaeyama.

Tutcheria virgata - common in the Amami, Okinawa and Yaeyama Island groups.

SIKKIM

Camellia: refer to following page detailing the single species.

C. kissi - page 13
Also - probably other species occur in Sikkim.

Schima wallichii

Probably other theaceous species of interest occur in Sikkim.

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botanicus

TAIWAN

Camellia: refer to following pages detailing each species.

C. brevistyla - page 3
C. caudata - page 4
C. nokoensis - page 22
C. tenuiflora - page 29
C. transarisanensis - page 30
C. transnokoensis - page 31

Gordonia axillaris (G. shimadae)

Schima wallichii ssp. noronhae var. superba (S. kankaoensis; S. superba; S. superba var. kankaoensis) - Nantou, Pintung and Taichung.

Tutcheria shinkoensis - Taichung and Taipeh, in broadleaved forests of the northern and central parts of the island.

Anneslea fragrans var. lanceolata - endemic to the southernmost part of the island; this is a promising theaceous ornamental and should be introduced, although it is but distantly related to the group under study.

THAILAND

Camellia: refer to following pages detailing each species.

C. connata - page 5
C. oleifera var. confusa - page 24
Also - probably some other species in Thailand, aside from tea, C. sinensis, that have not been recorded yet from this region.

Gordonia dalglieshiana - (probably other species too)

Pyrenaria garrettiana

Schima brevipes (S. wallichii var. oblata) - Payap, Surat, Puket, Pattani in northwestern Thailand.

Schima noronhae (S. wallichii var. nororhae) - Udawn, Ubon, Chantaburi in eastern Thailand.

Chinese species of Camellia

There are several species of Camellia native to extreme western and southwestern Yunnan. Although these species have not been recorded from adjacent areas of Burma, Thailand and Laos, it is highly likely that their range actually extends over and into these border regions from the near-contiguous western and southwestern distribution recorded within Yunnan. Should these species remain unavailable from within Burma, Thailand and Laos, perhaps arrangements can be made by local botanists of these areas for securing these species through Prof. H.T. Tsai or other staff members of the Botanical Institute, Kunming, Yunnan. This indirect method of obtaining Chinese species should be successful with the necessary cooperation and assistance from botanists in Burma or Thailand.

These species are:

Camellia forrestii - (Camellia liuii, Camellia polygama, Thea forestii, Thea polygama) This species is known to occur at least as far southwest in Yunnan as the mountains west of Szemao.

Camellia henryana - (Thea henryana) This species is known to occur at least as far southwest in Yunnan as the region between Szemao and Pohai.

Camellia mairei - (Camellia lapidea, Thea mairei) This species is known to occur at least as far southwest in Yunnan as the mountains west of Szemao.

Camellia pachyandra - (no synonyms) This species is known to occur at least as far southwest in Yunnan as Tsangyuan, almost on the Burma border.

Camellia yunnanensis - (Thea yunnanensis) This species is known to occur at least as far southwest in Yunnan as the Szemao, Chenkang and Tengchung areas.

Camellia henryana and C. yunnanensis are the two species most vital in importance for introduction. These species would provide material of great value.

Japanese species and cultivars of Camellia

In or about 1941 a nursery catalogue of camellias was published by K. Wada, Hakoneya Nurseries, Numazu-shi, Japan, that contained several items of great interest for introduction. These desiderata are:

Camellia haematodes - "New name given by me for identification to a distinct species, which I suppose to have come from China. The leaves are small, oblong, acute at both ends and more like C. sasanqua. The flowers are not large, 2 inches across, consisted of from 5-6 broad petals, which are intense blood crimson, much waxy and rather transparent...."

Camellia haematodes flore pleno - "Large semi-double form of the above...."

Camellia haematodes 'Himegozen' - ".... The flowers are intense transparent blood crimson filled to the brim with a disk of white petaloid anthers...."

Camellia oleifolia - "Large white pink-flushed fragrant flowers in late autumn." The true C. oleifera has pure white flowers; it would be most interesting to know what this particular item may actually be.

Note → Camellia species "China" - "A distinct species with broad leaves showing strong reticulation like C. reticulata, white gardenia-shaped fragrant flowers in autumn." This description fits exactly that of the otherwise unavailable C. yunnanensis from China; it is of utmost importance that material of this species from Wada be secured and introduced!

Other camellia materials of interest listed in this catalogue that should be introduced include the following: Hatsu-kari (a variety of C. wabisuke yet to be introduced); Kamakura-shibori and Kyo-nishiki (varieties of C. vernalis yet to be introduced); Crimson King, Karagoromo, Sandanka and Tachi-kan-tsubaki (varieties of C. heimalis yet to be introduced); and other winter-flowering varieties of what he lists as C. sasanqua, Date-nishiki, Shokko-nishiki, Shoku-no-nishiki, and Yamato-nishiki.

Camellia brevistyla

Also known as: Thea brevistyla

Native to: Taiwan

Remarks: This species has been collected in the provinces of Hualien and Nantou and on Mt. Alishan, Mt. Mukwashan and Mt. Tayuenshan; it occurs in mountainous areas at about 7000-8000 feet elevation.

It is important that this species be secured!

Camellia caudata

Also known as: Camellia buisanensis (Thea buisanensis)
Camellia gracilis (Thea gracilis)
Thea caudata

Native to: Assam; Bhutan; Burma; China; North Viet Nam; South Viet Nam; Taiwan

Remarks: Collection sites of record for this species are as follows for areas remaining available. Assam - the Garo, Khasia, Lushai and Mishmi hills; Burma - Kachin Hills, Bhamo, and Kachin State at Hkinlum and Watawu; South Viet Nam - at Bach-ma, near Hue; Taiwan -- the Bankinsing Mts. and near Gukutsu in Karenko Province.

Camellia connata

Also known as: Thea connata

Native to: Thailand

Remarks: Collection sites of record for this species are as follows - Doi Sutep; Chiengmai; Me Rim, near Chiengmai; Doi Angka; Doi Pahem Pok, Muang Fang. This species apparently is restricted to extreme northwestern Thailand.

It is important that Camellia connata be secured! This species is unique (together with C. lanceolata) taxonomically within the genus.

Camellia corallina

Also known as: Thea corallina

Native to: South Viet Nam

Remarks: This has been collected at Ba-na, near Tourane; it has also been collected at Bach Ma.

It is most important that this species be secured! Camellia corallina is marked by the great abundance of coral-red flowers produced along its twigs. This species would be a most valuable introduction.

Camellia dormoyana

Also known as: Stereocarpus dormoyana

Thea dormoyana

Native to: Cambodia; Laos; South Viet Nam

Remarks: Collection sites of record for this species are as follows. South Viet Nam: Cochinchina - Bien Hoa Province, at Tri Huyen and Dinh Quoen, and in the Da Bae Mountains on Phu Quoc Island; Annam - Haut Dounai Province, at Km. 88 Route Coloniale 20.

It is most important that this species be secured! Camellia dormoyana is reported as a very ornamental small tree loaded with yellowish flowers in March and April. It is unique taxonomically within the genus.

Camellia fleuryi

Also known as: Thea fleuryi

Native to: South Viet Nam

Remarks: This species has been collected on the Hon-ba Massif in Nha Trang Province.

It is most important that this species be secured! Camellia fleuryi has been reported as bearing yellow flowers; and as such, it is one of the two or three species with yellow or yellowish flowers that remain available (all the others are native to Tonkin in North Viet Nam and unavailable).

Camellia furfuracea

Also known as: Thea bolovensis
Thea furfuracea

Native to: China; Laos; North Viet Nam; South Viet Nam

Remarks; This species has been collected in Laos from the Boloven Plateau, Bassac Province; and in South Viet Nam from Braian, near Djiring, Haut Dounai Province.

It is important that this species be secured! Camellia furfuracea ~~represents~~ a taxonomic section of particular interest within ~~the~~ genus.

Camellia gaudichaudii

Also known as: Thea gaudichaudii

Native to: South Viet Nam; China (Hainan)

Remarks: This species is known from South Viet Nam by a single collection made in Tourane. The one collection was of fruiting material and the corolla has not been recorded; the flower color probably is white, but it might be yellow.

It is important that this species be secured! Camellia gaudichaudii has been placed within a section of the genus that is not at all well represented in cultivation.

Camellia gracilipes

Also known as: no synonyms recorded

Native to: North Viet Nam; South Viet Nam

Remarks: This species has been repeatedly collected in the Tourane area of South Viet Nam. It is marked by its long-stalked flowers and fruit opening from the base.

Camellia gracilipes is unique taxonomically within the genus. This would be an interesting species for introduction.

Camellia hiemalis

Also known as: Often confused with or considered C. sasanqua

Native to: Occurs as cultivated material in Japan

Remarks: This species contains two varieties of importance that have not yet been introduced to western cultivation. These varieties are available in Japan under the names Karagoromo and Sandanzaki. It at all possible, these two named varieties should be introduced.

In addition, other Japanese varieties attributed to this species include Meoto-zaki and Sandanka. It would be of interest to have these available also for study.

Camellia kissi

Also known as: Camellia caduca
Camellia iniquicarpa (Thea iniquicarpa)
Camellia keina
Thea bachmaensis
Thea brachystemon

Native to: Assam; Bhutan; Burma; Cambodia; China; Laos; Nepal; Sikkim; South Viet Nam

Remarks: This species has been introduced to western cultivation within quite recent years; this particular introduction originated from Nepal. It would be interesting to secure this species from other available areas within its distribution range to sample variation.

Camellia kissi var. stenophylla

Also known as: Camellia stenophylla

Native to: Assam; Burma; China

Remarks: This botanical variety has been collected in the Garo Hills of Assam and in Upper Burma at Tamu and in the Nmaihka Valley.

Camellia krempfii

Also known as: Thea krempfii

Native to: South Viet Nam

Remarks: This species is known from a single collection at Nha Trang. It is most important that this species be secured!

Camellia krempfii is inadequately understood because of its single collection; but this species is considered the most primitive within the genus. It is marked by its extremely large leaves; otherwise it closely approaches Camellia flava from North Viet Nam. The color of its flowers is reported questionably as white, but it may in fact be yellow.

Nha Trang should be readily accessible; it is located along the coast about 185 miles northeast of Saigon. The problem would be in locating plants of this species within the Nha Trang area.

Camellia lanceolata

Also known as: Calpandria lanceolata
Camellia megacarpa (Thea megacarpa)
Camellia montana (Thea montana)
Thea lanceolata

Native to: Indonesia (Celebes, Java, Sumatra); North Borneo; Philippines (Luzon, Mindanao, Mindoro, Palawan, Panay, Polillo).

Remarks: Material of this species from the Philippines is superior horticulturally to that from Indonesia. Philippine plants often produce flowers containing six to nine petals (vs four petals). It would be best to secure this species from several areas in its range to sample the wide variation it displays.

Camellia laotica

Also known as: Thea laotica

Native to: Laos

Remarks: This species has been collected in Savannakhet Province between Lao Bao and Muong Nong and between Langaxinh-xane and L. Xoan.

Camellia lutchuensis

Also known as: Thea lutchuensis
Theopsis lutchuensis

Native to: Ryukyu Islands

Remarks: This species occurs in woodland and is common from sea level to about 1500 feet elevation throughout at least parts of the entire island chain; it has been collected on Okinawa Island in the Central Ryukyu area, and is probably present elsewhere throughout the group.

The single introduction in western cultivation originated from Okinawa; it would be good to secure this species from other areas within the Ryukyu Islands as well. Collections from the southern range of these islands, such as Iriomote, might show some variation of interest.

Camellia lutescens

Also known as: Thea lutescens

Native to: Assam; Burma; Ceylon (cultivation)

Remarks: This species has been collected from Liam-planj-thaya in the Mishmi Hills, on the summit of Bapu and from the Dupla Hills in Assam; it has also been collected from the Kachin Hills of Upper Burma. It is reported as growing under cultivation in the Nonesuch Tea Garden, near Coonoor in south India; and seeds from this source were introduced at the Tea Research Institute, St. Coombs, Talawakelle, Ceylon.

Camellia miyagii

Also known as: Thea miyagii

Native to: Ryukyu Islands

Remarks: This species has been recorded in collections from Okinawa Island only in the Ryukyu Islands; it is quite likely, however, that it occurs on other islands among this extensive group. It would be interesting to secure material from non-Okinawan collections to study variation within the species.

Camellia miyagii has also been reported as occurring on Kume Shima and Amami Oshima. Particular effort should be made to secure it from Amami Oshima, as the intermediate position of this island might provide material of critical interest.

Camellia nematodea

Also known as: Thea nematodea

Native to: South Viet Nam

Remarks: This species has been collected in Annam, 25 km. from Nha Trang along the road to Ninh-hoa. It produces reportedly fragrant flowers and occurs in an area of ready accessibility.

Camellia nervosa

Also known as: Thea nervosa

Native to: South Viet Nam

Remarks: This species has been collected on a single occasion in forest at 5000 feet elevation on the Braian Massif, near Djiring, Haut Dounai Province.

Camellia nokoensis

Also known as: Thea nokoensis
Theopsis nokoensis

Native to: Taiwan

Remarks: This species is reported as known only from Mt. Nengkaoshan, Nantou, and Hengchun; it has also been noted, however, as collected in Taichung.

Camellia oleifera

Also known as: Camellia biflora
Camellia drupifera
Camellia oleosa
Thea biflora
Thea oleifera
Thea oleosa
and other names

Native to: China; Laos; North Viet Nam; South Viet Nam

Remarks: All introductions of this species into western cultivation have been from Chinese sources. It would be of interest to secure material of this species from other areas of its natural range, such as Laos and South Viet Nam.

Collections of this species have been made in Laos at the following sites - Boloven Plateau, Bassac Province; Tam-la, Tranninh Province. Collections have been made in South Viet Nam at the following sites - Col des Nuages, near Tourane; Sedom River, Cochinchina; Mekong, Hue, Cochinchina; Nui-chua Shan, Bien-hoa Province, Cochinchina.

This material from southern South Viet Nam (Cochinchina) is marked by its atypical foliage. Another consideration in surveying wild material of this species is the possibility of locating pink-flowered forms; all wild collections are noted as white-flowered, but pink flowers have been observed rarely in cultivation.

Camellia oleifera var. confusa

Also known as: Camellia confusa
Thea confusa

Native to: Assam; Burma; China (extreme-southwestern Yunnan); Laos; Thailand

Remarks: This botanical variety may be distinguished from the type C. oleifera by its larger leaves, 8-12 cm long and 3-5 cm wide (vs 4-7½ cm long and 2-3½ cm wide).

It would be good to have this variety represented in western cultivation to study its variation. This botanical variety has been collected in the following reported sites among those areas remaining available.

Assam - Kujoo, in Upper Assam; Mattuck country towards Tengrae and about 30 miles south of Sadiya.

Burma - Thaton District, Dawna Range, Paingkyu to Tale.

China - possibly available across the Burma border from known stations along the extreme edges of southwestern Yunnan, such as Cheli and Lantsang.

Laos - Pu Muten, Chiengkwang (spelling?).

Thailand - Doi Sutep, Chiengmai; Doi Angka.

Camellia oxyanthera

Also known as: Thea oxyanthera

Native to: Laos

Remarks: This species has been collected on a single occasion in forest at 2300 feet elevation on the Boloven Plateau, between Mong Bok Kao and Phong Thami, Bassac Province.

This species is based upon inadequate material; it may prove to be a Gordonia.

Camellia piquetiana

Also known as: Piquetia piquetiana
Thea piquetiana

Native to: South Viet Nam

Remarks: This species is restricted to Cochinchina; its collection sites of record are as follows - Bien Hoa Province, near Chao Xhan, and headwaters of the River Dongnai.

It is most important that this species be secured! This species is unique taxonomically within the genus. It is marked by the largest leaves within the genus and stalked purple flowers. Camellia piquetiana would be a very valuable introduction.

Camellia sasanqua

Also known as: Thea sasanqua

Native to: Japan (Kyushu, Shikoku); Ryukyu Islands

Remarks: Truly wild forms of this species are not at all well represented in western cultivation. It would be of real value and interest to secure Camellia sasanqua from Kyushu, Shikoku and the Ryukyu Islands in its wild forms.

According to reports in the literature, this species exhibits only pure white flowers in its truly wild form. It would be interesting to have some of these wild populations surveyed for the occurrence of wild plants with pink or red flowers and have these introduced along with the white forms.

Camellia species

Also known as: Thea laotica incorrectly

Native to: Laos

Remarks: This species was collected on a single occasion between L. Su'ng and L. Loi in Saravane Province. At one time it was believed synonymous with Thea laotica or Camellia laotica; however, it has been determined to represent a new species as yet incompletely described.

Camellia tenuiflora

Also known as: Camellia gnaphalocarpa
Thea gnaphalocarpa
Thea tenuiflora

Native to: Taiwan

Remarks: This species occurs in the northern and central parts of the island; it has been collected in the provinces of Hsinchu, Taichung and Taipeh.

The single introduction of this species to western cultivation originated from Taipeh; it is important to secure the species from other areas of its range to sample variation.

Camellia transarisanensis

Also known as: Camellia parvifolia
Thea parvifolia
Thea transarisanensis
Theopsis transarisanensis

Native to: Taiwan

Remarks: This species has been collected in the provinces of Chiayi, Hsinchu and Taichung and on Mt. Alishan and Mt. Anmashan; it occurs through the central mountains of the island.

Camellia transnokoensis

Also known as: Thea transnokoensis

Theopsis transnokoensis

Native to: Taiwan

Remarks: This species has been collected in the provinces of Hsinchu and Nantou and on Mt. Nengkaoshan; it occurs through the central mountains of the island.

This species is represented in western cultivation from a single introduction; and it displays considerable virus variegation in all propagations. It would be advisable to secure other introductions of this species direct from Taiwan.

Camellia tsaii

Also known as: Thea tsaii

Native to: Burma; China; North Viet Nam

Remarks: This species has been collected within Burma from the Bhamo District, between Sinlumkaba and Lapyeka, and the Wa States, at Minekhaywa.

Although this species is represented within cultivation, all stock relates back to a single introduction from China. It would be good to secure material from other available areas to sample variation.

Camellia vernalis

Also known as: Thea sasanqua var. vernalis; often confused with or considered C. sasanqua

Native to: Occurs as cultivated material in Japan

Remarks: This species contains three varieties of importance that have not yet been introduced to western cultivation. These varieties are available in Japan under the names Kamakura, Kamakura-shibori and Kyo-nishiki. If at all possible, these three named varieties should be introduced.

Camellia wardii

Also known as: no synonyms recorded

Native to: Burma; China (Yunnan)

Remarks: This species has been collected in Upper Burma at Pyepat and between Sadon and the Yunnan border at Changtifang and Kambaiti.